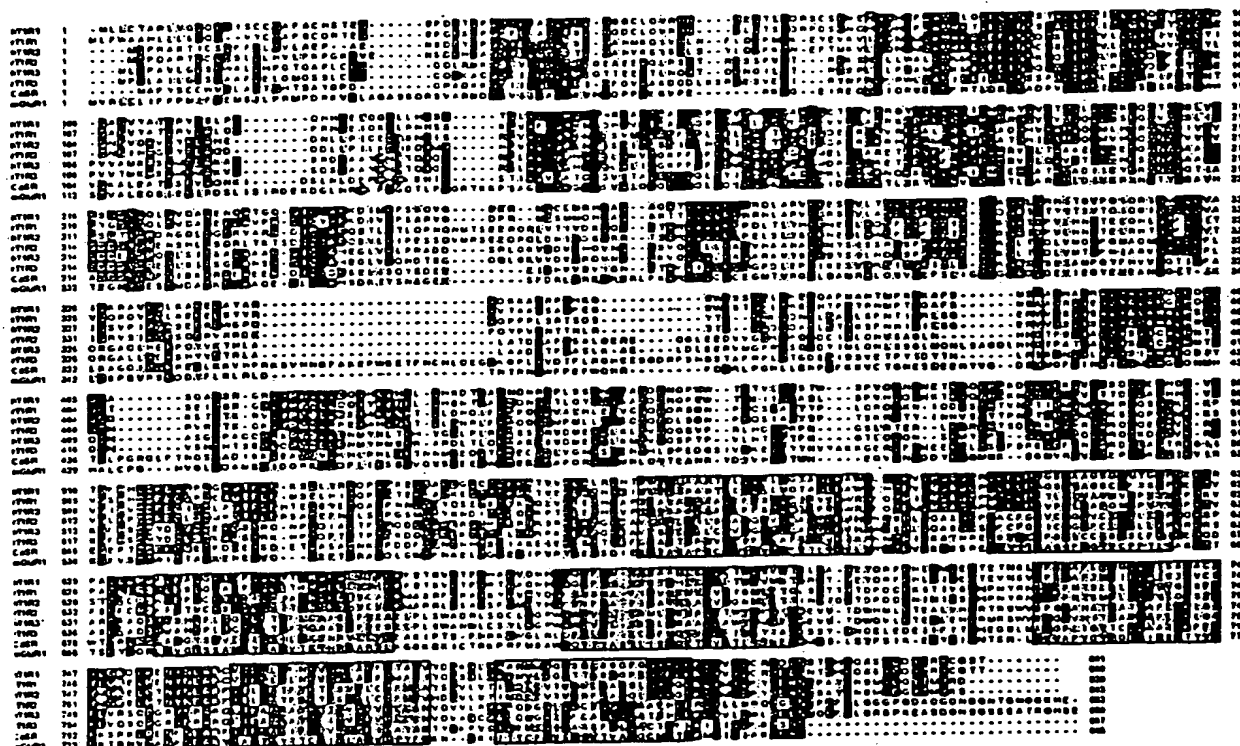


Figur 1: Catalog of human and rate T1Rs



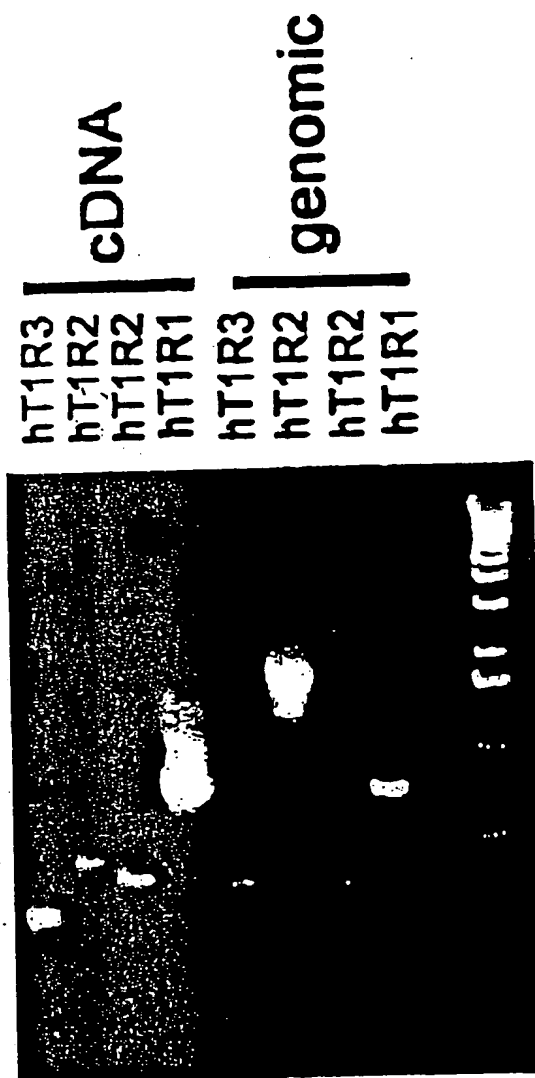
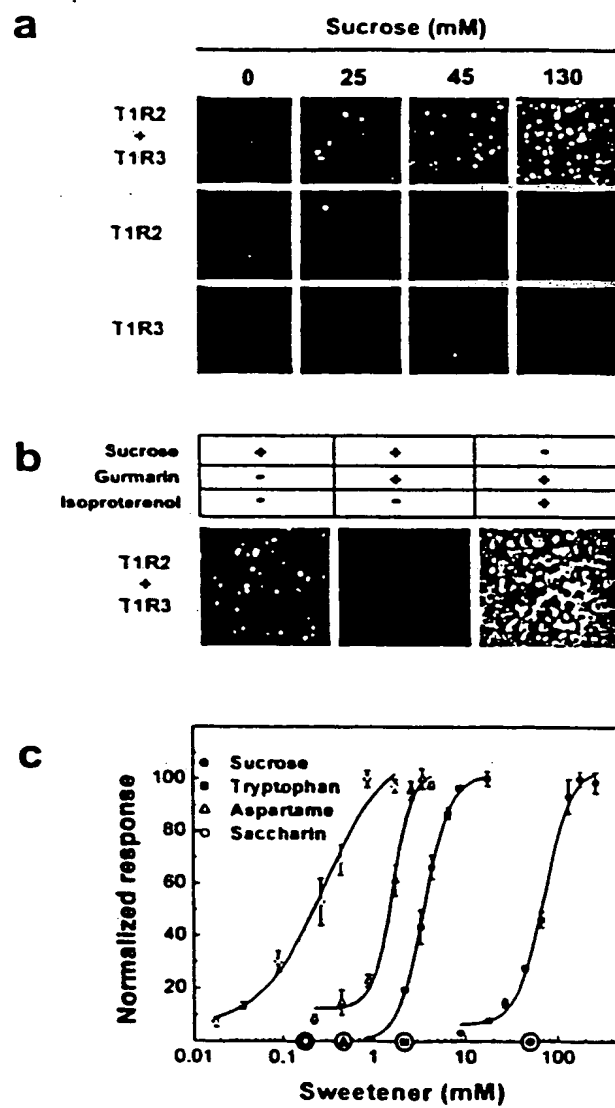
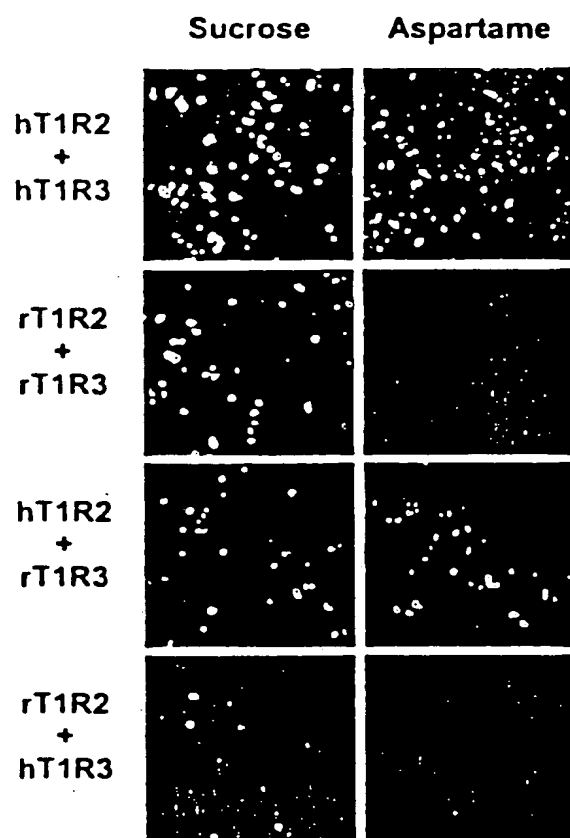


Figure 2 hT1R2 and hT1R3 are expressed in human tongue epithelium. cDNA-specific amplification products can be amplified from cDNA prepared from resected human circumvallate papillae.

**Figure 3 Human T1R2/T1R3 functions as a sweet taste receptor**



**Figure 4 T1R2 may control T1R2/T1R3 ligand specificity**



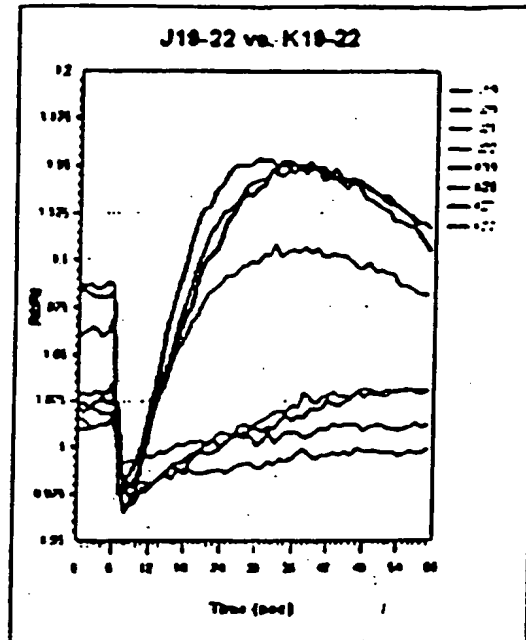
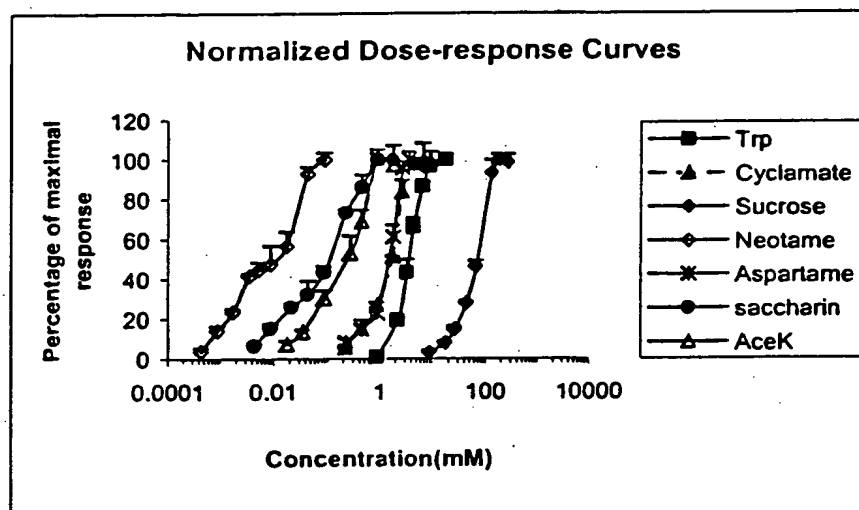


Figure 5

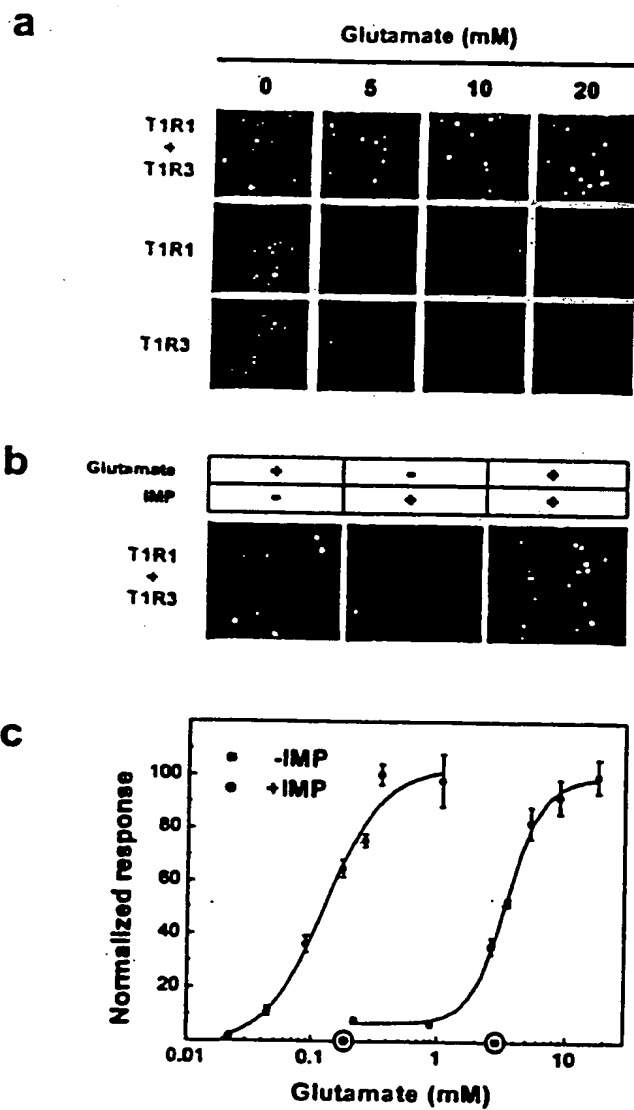


**Figure 6**

**Figure 7 Key ligand-binding residues of mGluR1 are conserved in T1R1**

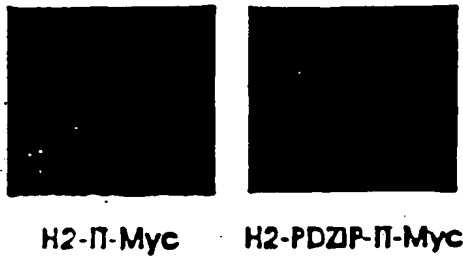


**Figure 8 Human T1R1/T1R3 functions as an umami taste receptor**

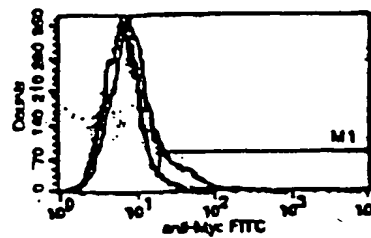




A.



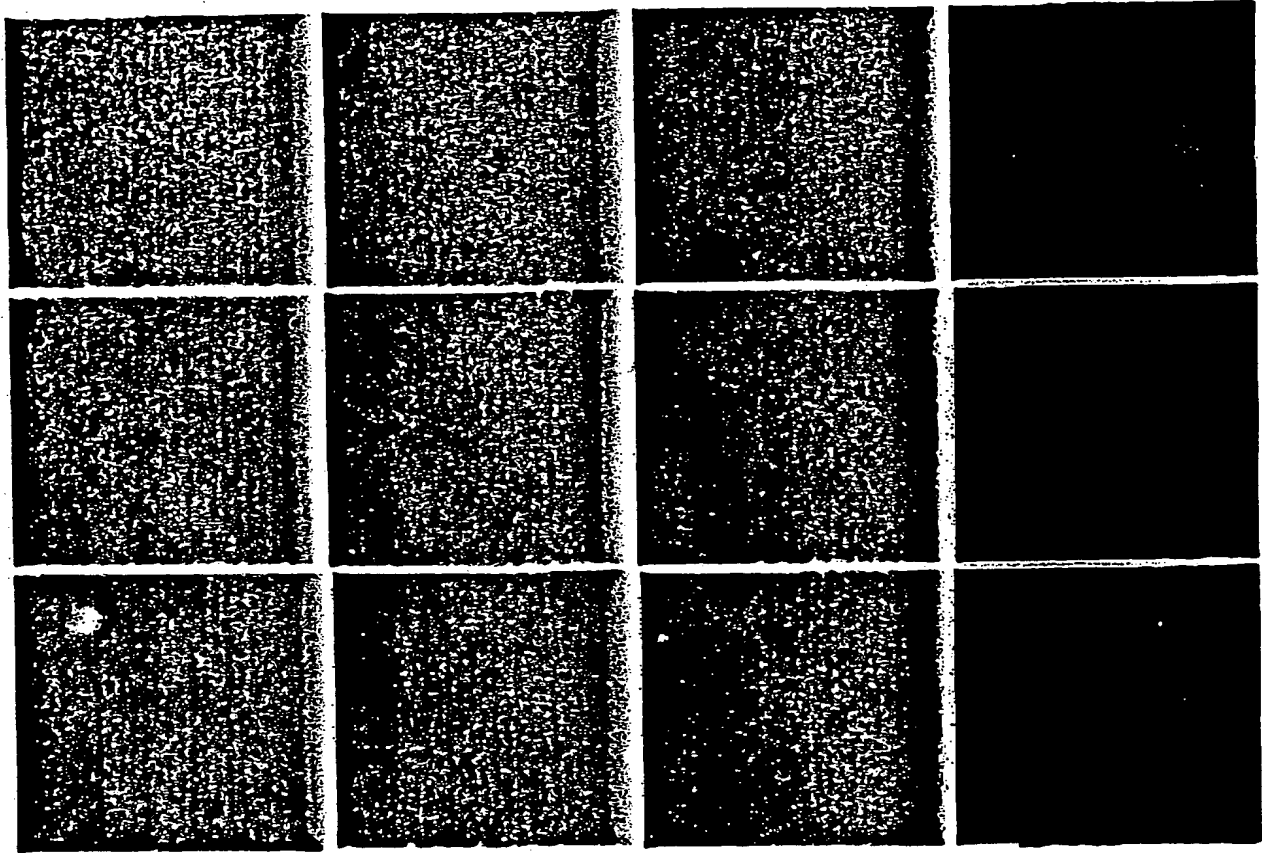
B.



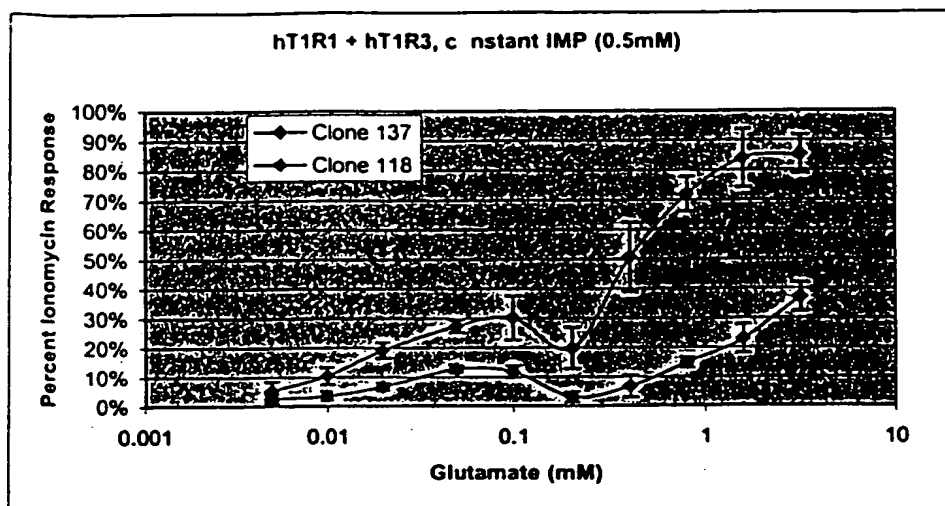
**Figure 9 PDZIP facilitate the surface expression of human T1R2.**

- A.** Immunofluorescence staining of Myc-tagged hT1R2 indicates that PDZIP significantly increases the amount of human T1R2 protein on the plasma membrane.
- B.** FACS analysis data demonstrating the same result.  
Myc-tagged human T1R2: Green line. Myc-tagged
- C.** human T1R2 with PDZIP: black line.

**Figure 10 Calcium-imaging data demonstrating hT1R2/hT1R3 responses to a number of sweet stimuli.**



**Figure 11**



**Figure 12**

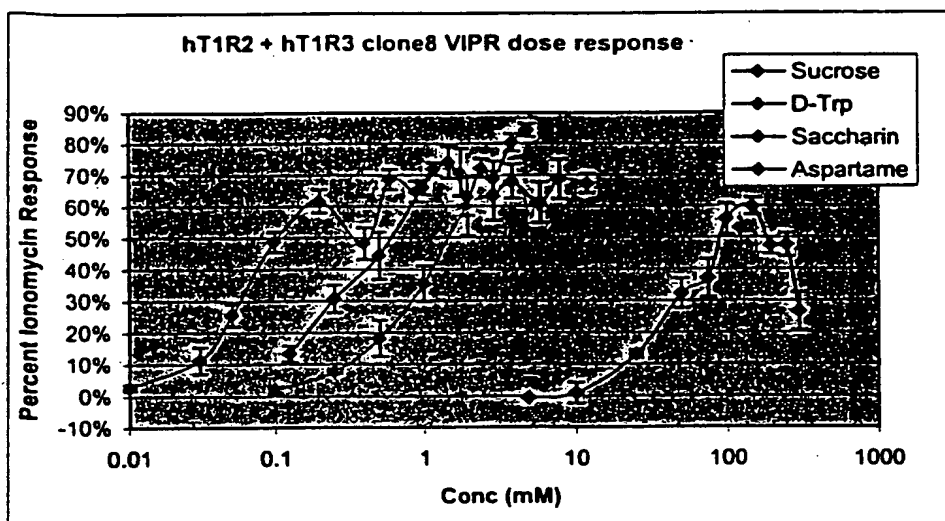
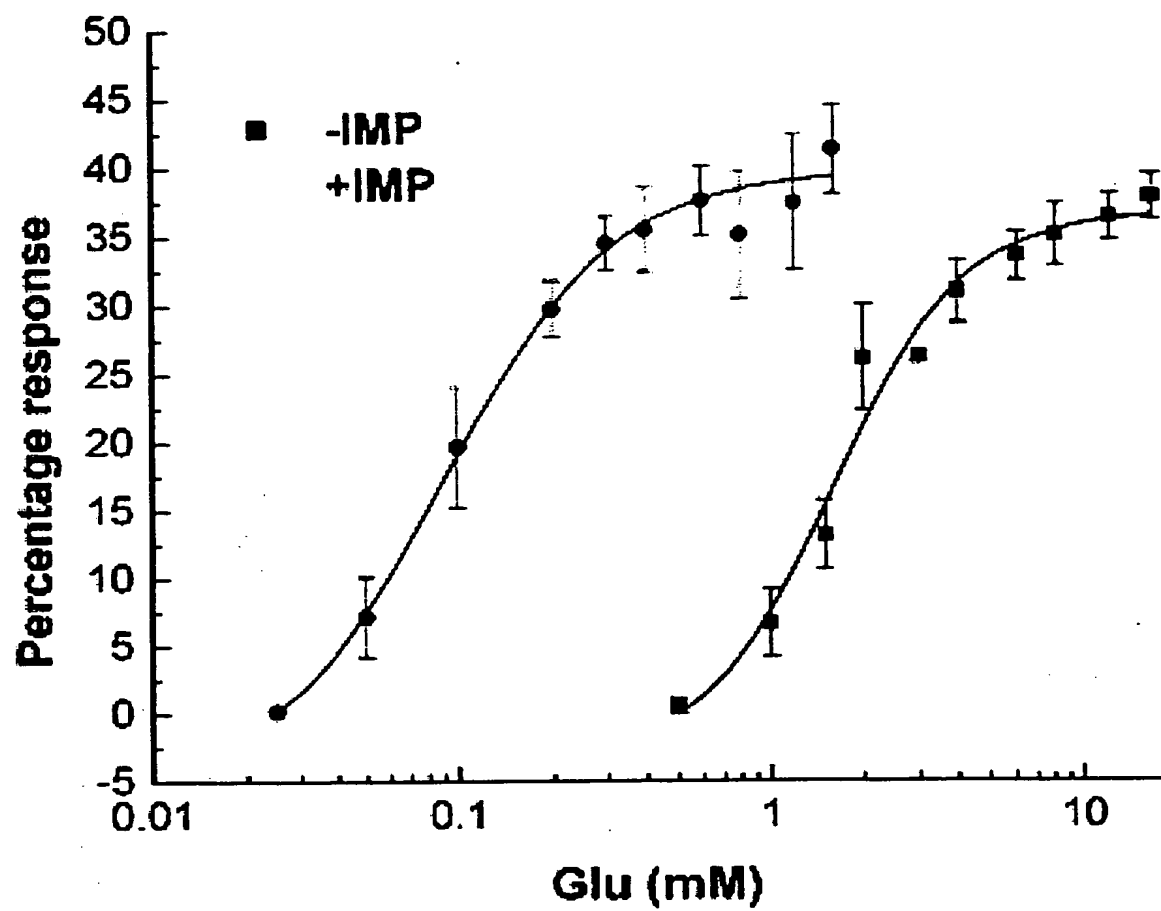
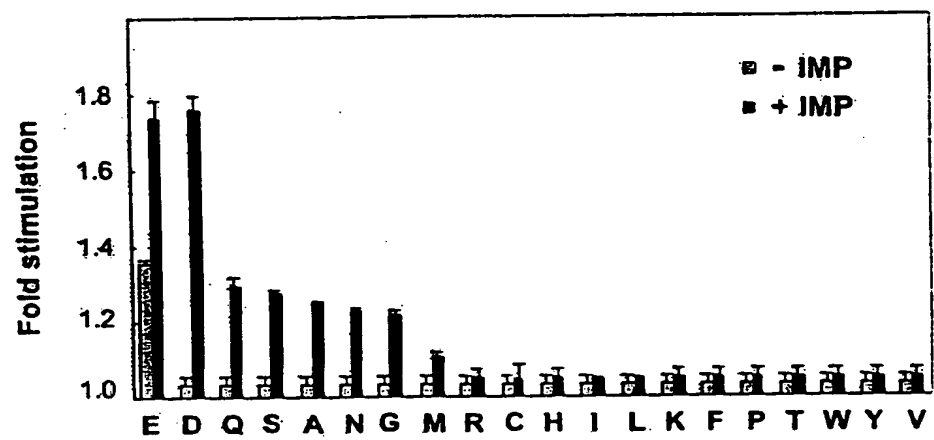


Figure 13





**Figure 14**

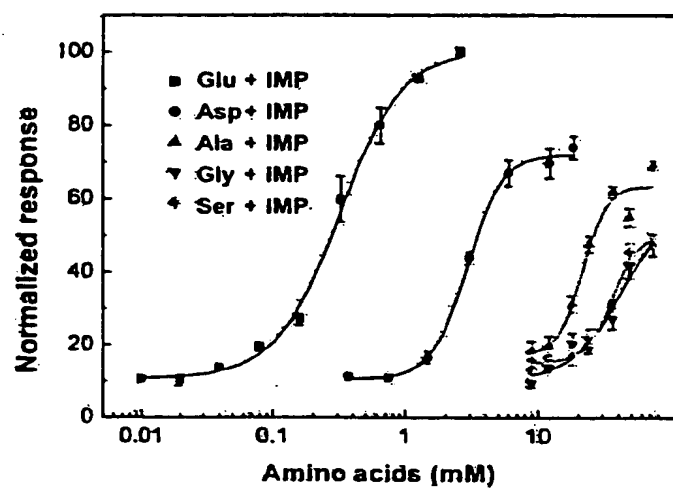
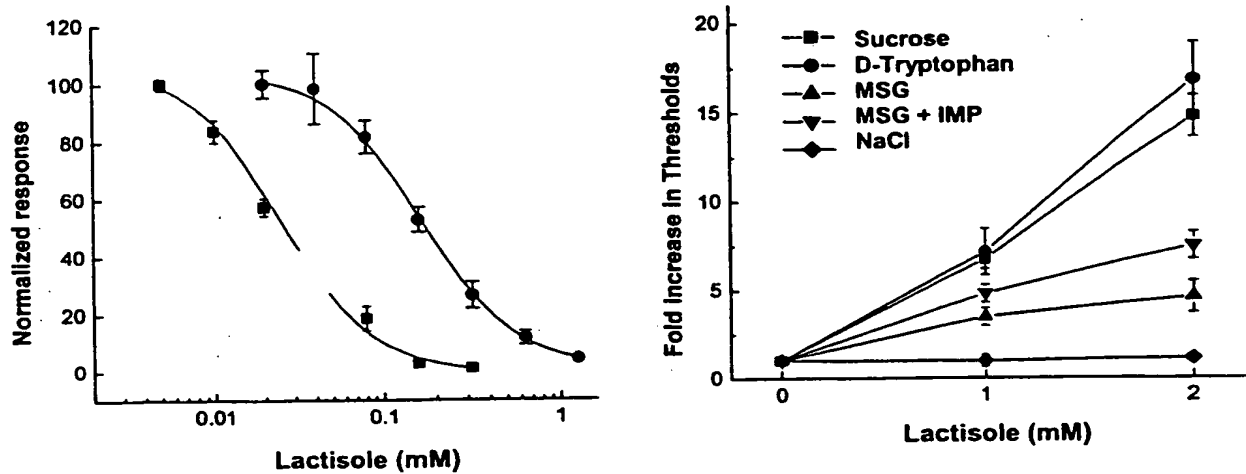


Figure 15



**Figure 16** Lactisole inhibits the T1R2/T1R3 sweet and T1R1/T1R3 umami receptors and sweet and umami taste. (*Left panel*) responses of HEK- $G_{\alpha 15}$  cells transiently transfected with T1R1/T1R3 (*circles*) to 10 mM L-glutamate and HEK- $G_{\alpha 15}$  cells transiently transfected with T1R2/T1R3 (*squares*) to 150 mM sucrose in the presence of variable concentrations of lactisole are shown. (*Right panel*) fold increases in taste detection thresholds in the presence of 1 and 2 mM lactisole are shown for the sweet taste stimuli sucrose and D-tryptophan, the umami taste stimuli L-glutamate (MSG) and L-glutamate plus 0.2 mM IMP, and sodium chloride. Detection thresholds were determined following the method of Schiffman et al.